

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Formosa Plastics Corporation, Texas

AUTHORIZING THE OPERATION OF
Formosa Point Comfort Complex
LDPE Plant
Petrochemical Manufacturing

LOCATED AT
Jackson County, Texas
Latitude 28° 41' 20" Longitude 96° 32' 50"
Regulated Entity Number: RN100218973

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O4286 Issuance Date: _____

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.
 - D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
 - E. Emission units subject to 40 CFR Part 63, Subparts FFFF and ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113,

Subchapter C, §113.890 and §113.1090, respectively, which incorporates the 40 CFR Part 63 Subpart by reference.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
 - A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)
 - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
 - A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
 - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
 - (ii) Title 30 TAC § 111.111(a)(1)(E)
 - (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
 - (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that

does not obstruct the transmission of light. Vents, as specified in the “Applicable Requirements Summary” attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

- (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (5) Compliance Certification:
 - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
 - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is

determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.
- B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.
- C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:
 - A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)
 - B. Title 40 CFR § 60.8 (relating to Performance Tests)
 - C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)
 - D. Title 40 CFR § 60.12 (relating to Circumvention)
 - E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)
 - F. Title 40 CFR § 60.14 (relating to Modification)
 - G. Title 40 CFR § 60.15 (relating to Reconstruction)
 - H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)
- 5. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

6. For miscellaneous chemical process facilities subject to maintenance wastewater requirements as specified in 40 CFR § 63.2485, Table 7, the permit holder shall comply with the requirements of 40 CFR § 63.105 (relating to Maintenance Wastewater Requirements) (Title 30 TAC Chapter 113, Subchapter C, § 113.890 incorporated by reference).
7. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit holder shall submit a revision application to codify the appropriate requirements in the permit.

Additional Monitoring Requirements

8. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

9. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
 - A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield
10. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
11. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air

contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

12. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.
13. Use of Discrete Emission Credits to comply with the applicable requirements:
 - A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) If applicable, offsets for Title 30 TAC Chapter 116
 - (iv) Temporarily exceed state NSR permit allowables
 - B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
 - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
 - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122
 - (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Risk Management Plan

14. For processes subject to 40 CFR Part 68 and specified in 40 CFR § 68.10, the permit holder shall comply with the requirements of the Accidental Release Prevention Provisions in 40 CFR Part 68. The permit holder shall submit to the appropriate agency either a compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR § 68.10(a), or as part of the compliance certification submitted under this permit, a certification statement that the

source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of a risk management plan.

Protection of Stratospheric Ozone

15. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
 - A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

Permit Location

16. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

17. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Unit Summary 10

Applicable Requirements Summary 12

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPVENTS-A	POLYMER MANUFACTURING PROCESSES	LD-009, LD-010, LD-011, LD-014, LD-015, LD-020, LD-021	60DDD-1	40 CFR Part 60, Subpart DDD	No changing attributes.
GRPVENTS-B	POLYMER MANUFACTURING PROCESSES	LD-013, LD-016, LD-017, LD-018, LD-019	60DDD-2	40 CFR Part 60, Subpart DDD	No changing attributes.
LD-001	FUGITIVE EMISSION UNITS	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.
LD-002	SRIC ENGINES	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
LD-002	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
LD-006	LOADING/UNLOADING OPERATIONS	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.
LD-012	POLYMER MANUFACTURING PROCESSES	N/A	60DDD-1	40 CFR Part 60, Subpart DDD	No changing attributes.
LD-022	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
LDPE PLANT	CHEMICAL MANUFACTURING PROCESS	N/A	63FFFF-1	40 CFR Part 63, Subpart FFFF	No changing attributes.
PLANT-FLR4	FLARES	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
PLVNT-FLR4	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	60DDD	40 CFR Part 60, Subpart DDD	No changing attributes.
PLVNT-FLR4	EMISSION	N/A	63FFFF-1	40 CFR Part 63, Subpart	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	POINTS/STATIONARY VENTS/PROCESS VENTS			FFFF	
VNT-RTO1	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	60DDD	40 CFR Part 60, Subpart DDD	No changing attributes.
VNT-RTO1	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63FFFF-2	40 CFR Part 63, Subpart FFFF	No changing attributes.
VNT-RTO2	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63FFFF-2	40 CFR Part 63, Subpart FFFF	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPVENTS -A	PRO	60DDD-1	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.560(g)	Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 % from facilities as specified, exempted from §60.562-1(a)(1).	[G]§ 60.564(d)	§ 60.565(a) § 60.565(a)(10) § 60.565(h)	§ 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7)
GRPVENTS -B	PRO	60DDD-2	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.560(g)	Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 % from facilities as specified, exempted from §60.562-1(a)(1).	[G]§ 60.564(d)	§ 60.565(a) § 60.565(a)(10) § 60.565(h)	§ 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7)
LD-001	EU	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2480(a) The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart FFFF	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart FFFF	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart FFFF	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart FFFF	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart FFFF
LD-002	EU	60IIII-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 1039-Appendix I	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year	None	None	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.			
LD-002	EU	60III-1	NMHC and NO _x	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 1039-Appendix I	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NO _x emission limit of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.	None	None	[G]§ 60.4214(d)
LD-002	EU	60III-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 1039-Appendix I	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 1039-Appendix I.	None	None	[G]§ 60.4214(d)
LD-002	EU	60III-1	PM (Opacity)	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206	Emergency stationary CI ICE, that are not fire pump engines, with displacement	None	None	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 1039.105(b)(1) § 1039.105(b)(2) § 1039.105(b)(3)	< 10 lpc and not constant-speed engines, with max engine power < 2237 KW and a 2007 model year and later or max engine power > 2237 KW and a 2011 model year and later, must comply with following opacity emission limits: 20% during acceleration, 15% during lugging, 50% during peaks in either acceleration or lugging modes as stated in §60.4202(a)(1)-(2), (b)(2) and §1039.105(b)(1)-(3).			
LD-002	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) § 63.6640(f)(2) § 63.6640(f)(2)(i) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).	None	None	§ 63.6645(f)
LD-006	EU	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2475(a)-Table 5.1.b § 63.11(b) § 63.2450(b) § 63.2475(a) § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i)	For each Group 1 transfer rack you must reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare.	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3)	§ 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.987(c) § 63.998(a)(1) [G]§ 63.998(a)(1)(i) § 63.998(a)(1)(ii) § 63.998(a)(1)(iii)(A) § 63.998(a)(1)(iii)(B)	§ 63.2450(f)(2)(ii) § 63.2450(q) § 63.997(c)(3) § 63.998(a)(1)(iii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					[G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.987(b)(1) § 63.987(b)(3) [G]§ 63.997(c)(1) § 63.997(c)(3)		§ 63.983(d)(1) § 63.983(d)(1)(ii) [G]§ 63.987(b)(3)(i) § 63.987(b)(3)(ii) § 63.987(b)(3)(iii) § 63.987(b)(3)(iv) § 63.987(c) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i)	[G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	§ 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2)
LD-012	PRO	60DDD-1	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.560(g)	Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 % from facilities as specified, exempted from §60.562-1(a)(1).	[G]§ 60.564(d)	§ 60.565(a) § 60.565(a)(10) § 60.565(h)	§ 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7)
LD-022	EP	R1111-1	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
LDPE PLANT	PRO	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2440(a) § 63.2450(a) § 63.2450(l)	This subpart applies to each miscellaneous organic chemical manufacturing affected source.	§ 63.2445(d)	§ 63.2525 § 63.2525(a) [G]§ 63.2525(b) § 63.2525(c) § 63.2525(f) § 63.2525(j)	§ 63.2435(d) § 63.2445(c) § 63.2450(g)(5) § 63.2450(m) § 63.2450(m)(1) § 63.2450(m)(2) § 63.2515(a) § 63.2515(b)(2) § 63.2515(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
									§ 63.2520(a) [G]§ 63.2520(b) [G]§ 63.2520(c) [G]§ 63.2520(d) § 63.2520(e) § 63.2520(e)(1) [G]§ 63.2520(e)(10) § 63.2520(e)(2) § 63.2520(e)(3) § 63.2520(e)(4) § 63.2520(e)(5) § 63.2520(e)(5)(i) [G]§ 63.2520(e)(5)(ii) [G]§ 63.2520(e)(5)(iii) § 63.2520(e)(6) § 63.2520(e)(7) § 63.2520(e)(9)
PLANT-FLR4	CD	R1111-1	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period. Non-excessive upset events are subject to the provisions under §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
PLVNT-FLR4	EU	60DDD	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 63.2535(h)	For equipment subject to 40 CFR Part 63, Subpart FFFF that is also subject to 40 CFR Part 60, Subpart DDD, the permit holder may elect to apply 40 CFR Part 63, Subpart FFFF to all such equipment. Compliance in this manner will constitute compliance with 40 CFR Part 60, Subpart DDD.	None	None	None
PLVNT-FLR4	EP	63FFFF-1	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2455(a)-Table 1.1.a.ii	For each Group 1continuous process vent,	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii)	§ 63.2450(f)(2) § 63.2450(f)(2)(i)	§ 63.2450(f)(2)(ii) § 63.2450(q)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.11(b) § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.987(b)(1) § 63.987(b)(3) [G]§ 63.997(c)(1) § 63.997(c)(3)	the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare.	§ 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) [G]§ 63.987(b)(3)(i) § 63.987(b)(3)(ii) § 63.987(b)(3)(iii) § 63.987(b)(3)(iv) § 63.987(c) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii)	§ 63.2450(f)(2)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.987(b)(1) § 63.987(c) § 63.998(a)(1) [G]§ 63.998(a)(1)(i) § 63.998(a)(1)(ii) § 63.998(a)(1)(iii)(A) § 63.998(a)(1)(iii)(B) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	§ 63.987(b)(1) § 63.997(c)(3) § 63.998(a)(1)(iii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(3) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2)
VNT-RTO1	EU	60DDD	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 63.2535(h)	For equipment subject to 40 CFR Part 63, Subpart FFFF that is also subject to 40 CFR Part 60, Subpart DDD, the permit holder may elect to apply 40 CFR Part 63, Subpart FFFF to all such equipment. Compliance in this manner will constitute compliance with 40 CFR Part 60, Subpart DDD.	None	None	None
VNT-RTO1	EP	63FFFF-2	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2450(i)(1) § 63.2450(i)(2) § 63.2455(a) § 63.2455(b)	For each Group 1 continuous process vent, the owner or operator must reduce emissions to an outlet process concentration less than or equal to 20 ppmv as organic HAP or	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4)	§ 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.996(c)(2)(ii)	§ 63.2450(q) § 63.988(b)(1) § 63.996(b)(2) § 63.996(c)(6) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.998(b)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.988(a)(1) § 63.988(a)(2) § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5) § 63.996(c)(6) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d)	TOC by venting emissions through a closed-vent system to any combination of control devices (except flare).	§ 63.2450(k)(6) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(1) § 63.996(b)(1) § 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) § 63.997(e)(2)(i)(B) § 63.997(e)(2)(ii) § 63.997(e)(2)(iii) § 63.997(e)(2)(iii)(A) [G]§ 63.997(e)(2)(iii)(B) [G]§ 63.997(e)(2)(iii)(C) [G]§ 63.997(e)(2)(iii)(D) [G]§ 63.997(e)(2)(iii)(E)	§ 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(1) § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	[G]§ 63.999(a)(1) [G]§ 63.999(a)(2) [G]§ 63.999(b)(3) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
VNT-RTO2	EP	63FFFF-2	112(B) HAPS	40 CFR Part 63, Subpart FFFF	§ 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2450(i)(1) § 63.2450(i)(2) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.988(a)(1) § 63.988(a)(2) § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5) § 63.996(c)(6) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d)	For each Group 1 continuous process vent, the owner or operator must reduce emissions to an outlet process concentration less than or equal to 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except flare).	[G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(6) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(1) § 63.996(b)(1) § 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) § 63.997(e)(2)(i)(B) § 63.997(e)(2)(ii) § 63.997(e)(2)(iii) § 63.997(e)(2)(iii)(A) [G]§	§ 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.996(c)(2)(ii) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(1) § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5)	§ 63.2450(q) § 63.988(b)(1) § 63.996(b)(2) § 63.996(c)(6) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) [G]§ 63.999(b)(3) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
							63.997(e)(2)(iii)(B) [G]§ 63.997(e)(2)(iii)(C) [G]§ 63.997(e)(2)(iii)(D) [G]§ 63.997(e)(2)(iii)(E)		

Additional Monitoring Requirements

Periodic Monitoring Summary	22
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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: LD-022	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-1
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once per week	
Averaging Period: N/A	
Deviation Limit: Opacity shall not exceed 15% averaged over a six-minute period for any source having a total flow rate greater than or equal to 100,000 actual cubic feet per minute.	
<p>Periodic Monitoring Text: Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor.</p> <p>If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If the result of the Test Method 9 is opacity above the opacity limit in the applicable requirement, the permit holder shall report a deviation.</p>	

Permit Shield

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Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
GRPVENTS-A	LD-009, LD-010, LD-011, LD-014, LD-015, LD-020, LD-021	40 CFR Part 63, Subpart FFFF	Vents in this group contain <0.005 wt% HAP and therefore do not meet the definition of a continuous process vent under the MON Rule.
GRPVENTS-B	LD-013, LD-016, LD-017, LD-018, LD-019	40 CFR Part 63, Subpart FFFF	Vents in this group contain <0.005 wt% HAP and therefore do not meet the definition of a continuous process vent under the MON Rule.
LD-003	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 cubic meters; therefore, this tank is not an affected facility under Subpart Kb.
LD-004	N/A	30 TAC Chapter 115, Loading and Unloading of VOC	Jackson country is a covered attainment county however loading operations do not include gasoline. Therefore, loading operations are exempt from this Division.
LD-004	N/A	40 CFR Part 63, Subpart FFFF	Spent lube oil loading does not contain organic HAPs and thus does not meet the definition of a transfer rack under the MON Rule.
LD-005A	N/A	30 TAC Chapter 115, Loading and Unloading of VOC	Jackson country is a covered attainment county however loading operations do not include gasoline. Therefore, loading operations are exempt from this Division.
LD-005A	N/A	40 CFR Part 63, Subpart FFFF	Wax loading does not contain organic HAPs and thus does not meet the definition of a transfer rack under the MON Rule.
LD-005B	N/A	30 TAC Chapter 115, Loading and Unloading of VOC	Jackson country is a covered attainment county however loading operations do not include gasoline. Therefore,

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
			loading operations are exempt from this Division.
LD-005B	N/A	40 CFR Part 63, Subpart FFFF	Wax loading does not contain organic HAPs and thus does not meet the definition of a transfer rack under the MON Rule.
LD-006	N/A	30 TAC Chapter 115, Loading and Unloading of VOC	Jackson county is a covered attainment county however loading operations do not include gasoline. Therefore, loading operations are exempt from this Division.
LDPEHTXCHG	N/A	40 CFR Part 63, Subpart FFFF	Heat exchange systems (cooling water system) are used to cool process fluids that contain less than 5 percent by weight of Table 4 HAPs do not require monitoring.
LDPEWSTWTR	N/A	40 CFR Part 63, Subpart FFFF	Wastewater streams do not meet the definition of wastewater per §63.2550(i) because concentrations of Tables 8 and 9 compounds are expected to be less than listed concentrations (e.g., 10,000 ppmw at any flowrate).
PLVNT-FLR4	N/A	30 TAC Chapter 115, Vent Gas Controls	Jackson county is not a listed county in 30 TAC 115.122 control requirements for vent gas control. Jackson county is not subject to vent gas control requirements for VOC.
VNT-RTO1	N/A	30 TAC Chapter 115, Vent Gas Controls	Jackson county is not a listed county in 30 TAC 115.122 control requirements for vent gas control. Jackson county is not subject to vent gas control requirements for VOC.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
VNT-RTO2	N/A	30 TAC Chapter 115, Vent Gas Controls	Jackson county is not a listed county in 30 TAC 115.122 control requirements for vent gas control. Jackson county is not subject to vent gas control requirements for VOC.

New Source Review Authorization References

New Source Review Authorization References	28
New Source Review Authorization References by Emission Unit	29

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: GHGPSDTX47	Issuance Date: 04/19/2021
PSD Permit No.: PSDTX1384	Issuance Date: 12/17/2020
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 107520	Issuance Date: 12/17/2020

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
LD-001	PROCESS FUGITIVES	107520, PSDTX1384
LD-002	EMERGENCY DIESEL GENERATOR	107520, GHGPSDTX47, PSDTX1384
LD-003	DIESEL TANK	107520, PSDTX1384
LD-004	SPENT LUBE OIL LOADING	107520, PSDTX1384
LD-005A	WAX LOADING	107520, PSDTX1384
LD-005B	WAX LOADING	107520, PSDTX1384
LD-006	VA COLUMN BOTTOMS LOADING	107520, PSDTX1384
LD-009	TRANSITION/BLENDING/STORAGE SILO VENT	107520, PSDTX1384
LD-010	VIRGIN PELLETS/BLEND/STORAGE SILO VENT	107520, PSDTX1384
LD-011	MASTER-BATCH SILO VENT	107520, PSDTX1384
LD-012	EXTRUDER BUILDING VENT	107520, PSDTX1384
LD-013	PELLET DRYER VENT	107520, PSDTX1384
LD-014	DE-DUSTER VENT BAGHOUSE	107520, GHGPSDTX47, PSDTX1384
LD-015	DE-DUSTER VENT BAGHOUSE	107520, GHGPSDTX47, PSDTX1384
LD-016	ELUTRIATOR VENT BAGHOUSE	107520, PSDTX1384
LD-017	ELUTRIATOR VENT BAGHOUSE	107520, PSDTX1384
LD-018	HOPPER CAR HEEL BAGHOUSE	107520, PSDTX1384
LD-019	MASTER-BATCH TRANSFER LINE DE-DUSTER VENT BAGHOUSE	107520, PSDTX1384
LD-020	RECYCLE/MASTERBATCH/OFF GRADE PELLET SILO VENT	107520, PSDTX1384
LD-021	PELLET HOPPER CAR PRE-LOAD PREP (VACUUM VENT)	107520, PSDTX1384
LD-022	RTO 1 AND RTO 2	107520, GHGPSDTX47, PSDTX1384

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
LDPE PLANT	MCPU	107520, PSDTX1384
LDPEHTXCHG	HEAT EXCHANGE SYSTEMS (COOLING WATER SYSTEM)	107520, PSDTX1384
LDPEWSTWTR	MCPU WASTEWATER	107520, PSDTX1384
PLANT-FLR4	LDPE ELEVATED FLARE	107520, GHGPSDTX47, PSDTX1384
PLVNT-FLR4	VENT TO LDPE ELEVATED FLARE	107520, GHGPSDTX47, PSDTX1384
VNT-RTO1	VENT TO REGENERATIVE THERMAL OXIDIZER RTO1	107520, PSDTX1384
VNT-RTO2	VENT TO REGENERATIVE THERMAL OXIDIZER RTO2	107520, PSDTX1384

Appendix A

Acronym List 32

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM	actual cubic feet per minute
AMOC	alternate means of control
ARP	Acid Rain Program
ASTM	American Society of Testing and Materials
B/PA	Beaumont/Port Arthur (nonattainment area)
CAM	Compliance Assurance Monitoring
CD	control device
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
COMS	continuous opacity monitoring system
CVS	closed vent system
D/FW	Dallas/Fort Worth (nonattainment area)
EP	emission point
EPA	U.S. Environmental Protection Agency
EU	emission unit
FCAA Amendments	Federal Clean Air Act Amendments
FOP	federal operating permit
gr/100 scf	grains per 100 standard cubic feet
HAP	hazardous air pollutant
H/G/B	Houston/Galveston/Brazoria (nonattainment area)
H ₂ S	hydrogen sulfide
ID No.	identification number
lb/hr	pound(s) per hour
MACT	Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr	Million British thermal units per hour
NA	nonattainment
N/A	not applicable
NADB	National Allowance Data Base
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO _x	nitrogen oxides
NSPS	New Source Performance Standard (40 CFR Part 60)
NSR	New Source Review
ORIS	Office of Regulatory Information Systems
Pb	lead
PBR	Permit By Rule
PEMS	predictive emissions monitoring system
PM	particulate matter
ppmv	parts per million by volume
PRO	process unit
PSD	prevention of significant deterioration
psia	pounds per square inch absolute
SIP	state implementation plan
SO ₂	sulfur dioxide
TCEQ	Texas Commission on Environmental Quality
TSP	total suspended particulate
TVP	true vapor pressure
U.S.C.	United States Code
VOC	volatile organic compound

Appendix B

Major NSR Summary Table 34

Major NSR Summary Table

Permit Numbers: 107520 and PSDTX1384					Issuance Date: 12/17/2020		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
LD-001	Process Fugitives (5)	VOC	6.59	28.87	2, 3, 8, 9	2, 3, 8, 9, 21	2, 3
		Chlorine	0.11	0.50			
		Organic Peroxides	1.74	7.63			
LD-002	Emergency Diesel Generator	VOC	12.77	0.64	2, 23	2, 21, 23	2
		NO _x	12.77	0.64			
		CO	6.92	0.35			
		SO ₂	0.01	<0.01			
		PM	0.40	0.02			
		PM ₁₀	0.40	0.02			
		PM _{2.5}	0.40	0.02			
LD-003	Diesel Tank	VOC	0.06	<0.01		21	
LD-004	Spent Lube Oil Loading	VOC	0.54	<0.01		21	
LD-005A	Wax Loading	VOC	0.15	0.11		21	
LD-005B	Wax Loading	VOC	0.15	0.11		21	
LD-006	VA Column Bottoms Loading	VOC	0.89	<0.01	3	3, 21	3
LD-007	Peroxide Charge Vent	VOC	<0.01	<0.01		21	
LD-008	Peroxide Collector Vent	VOC	0.93	0.17		21	

Major NSR Summary Table

Permit Numbers: 107520 and PSDTX1384					Issuance Date: 12/17/2020		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
LD-009	Transition/blending/storage Silo Vent	PM	0.06	0.28	7, 20	7, 20, 21	
		PM ₁₀	0.06	0.28			
		PM _{2.5}	0.06	0.28			
LD-010	Virgin pellets/blend/storage Silo Vent	PM	0.06	0.28	7, 20	7, 20, 21	
		PM ₁₀	0.06	0.28			
		PM _{2.5}	0.06	0.28			
LD-011	Master-Batch Silo Vent	PM	0.07	0.32	7, 20	7, 20, 21	
		PM ₁₀	0.07	0.32			
		PM _{2.5}	0.07	0.32			
LD-012	Extruder Building Vent	VOC	<0.01	0.01	11, 12	11, 12, 21	
LD-013	Pellet Dryer Vent	PM	0.27	1.20	7, 19, 20	7, 19, 20, 21	20
		PM ₁₀	0.27	1.20			
		PM _{2.5}	0.27	1.20			
		VOC	14.41	35.22			
LD-014	De-Duster Vent Baghouse	PM	0.03	0.12	7, 19, 20	7, 19, 20, 21	20
		PM ₁₀	0.03	0.12			
		PM _{2.5}	0.03	0.12			
LD-015	De-Duster Vent Baghouse	PM	0.03	0.15	7, 19, 20	7, 19, 20, 21	20

Major NSR Summary Table

Permit Numbers: 107520 and PSDTX1384					Issuance Date: 12/17/2020		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
		PM ₁₀	0.03	0.15			
		PM _{2.5}	0.03	0.15			
LD-014, LD-015	De-Duster Vents VOC Cap	VOC	0.25	1.11	19	19, 21	
LD-016	Elutriator Vent Baghouse	PM	0.12	0.54	7, 19, 20	7, 19, 20, 21	
		PM ₁₀	0.12	0.54			
		PM _{2.5}	0.12	0.54			
LD-017	Elutriator Vent Baghouse	PM	0.12	0.54	7, 19, 20	7, 19, 20, 21	
		PM ₁₀	0.12	0.54			
		PM _{2.5}	0.12	0.54			
LD-018	Hopper Car Heel Baghouse	PM	0.02	0.11	7, 19, 20	7, 19, 20, 21	
		PM ₁₀	0.02	0.11			
		PM _{2.5}	0.02	0.11			
LD-019	Master-batch Transfer Line De-Duster Vent Baghouse	PM	0.03	0.12	7, 19, 20	7, 19, 20, 21	
		PM ₁₀	0.03	0.12			
		PM _{2.5}	0.03	0.12			
LD-016 through LD-019	Pellet Load-out Filters VOC CAP	VOC	1.36	5.96	19	19, 21	
LD-020	Recycle/Masterbatch/Off	PM	0.14	0.61	7, 19, 20	7, 19, 20, 21	

Major NSR Summary Table

Permit Numbers: 107520 and PSDTX1384					Issuance Date: 12/17/2020		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
	Grade Pellet Silo Vent	PM ₁₀	0.14	0.61			
		PM _{2.5}	0.14	0.61			
LD-021	Pellet Hopper Car Pre-Load Prep (Vacuum Vent)	PM	0.01	0.06	7, 20	7, 20, 21	
		PM ₁₀	0.01	0.06			
		PM _{2.5}	0.01	0.06			
LD-022	RTO 1 and RTO 2	VOC	2.20	39.83	3, 5, 16, 18, 19, 20	3, 5, 16, 18, 19, 20, 21	3, 5, 18
		VOC (RTO Transitioning)	206.08				
		NO _x	1.76	4.68			
		CO	2.47	6.55			
		SO ₂	0.02	0.04			
		PM	0.22	0.59			
		PM ₁₀	0.22	0.59			
		PM _{2.5}	0.22	0.59			
LD-CT	Cooling Tower	VOC	1.25	5.48	17, 20	17, 20, 21	
		HCIO	<0.01	<0.01			
		PM	1.63	4.55			
		PM ₁₀	0.38	1.65			

Major NSR Summary Table

Permit Numbers: 107520 and PSDTX1384					Issuance Date: 12/17/2020		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
		PM _{2.5}	<0.01	<0.01			
LD-MSS	MSS Fugitives	VOC	71.65	2.24	10, 11, 12, 13, 16	10, 11, 12, 13, 16, 21	16
		PM	0.57	0.06			
		PM ₁₀	0.15	0.03			
		PM _{2.5}	0.14	0.02			
PLANT-FLR4	LDPE Elevated Flare	VOC	5.96	12.49	2, 3, 6, 20	2, 3, 6, 20, 21	2, 3, 20
		NO _x	2.06	7.63			
		CO	3.80	9.65			
		SO ₂	0.01	0.04			
PLANT-FLR4	LDPE MSS at Plant 4 Elevated Flare	VOC	914.61	68.77	6, 10, 13, 16, 20	6, 10, 13, 16, 20, 21	20
		NO _x	108.86	8.36			
		CO	560.78	43.06			

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

- (3)
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 - NO_x - total oxides of nitrogen
 - SO₂ - sulfur dioxide
 - PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 - PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 - PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter

CO - carbon monoxide
HClO - hypochlorous acid

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Major NSR Summary Table

Permit Number: GHGPSDTX47				Issuance Date: 04/19/2021		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
LD-022	Regenerative thermal oxidizers 1 & 2	CO ₂	31,411 (5)	III.A.1., IV.A.7., V.A.1-3., V.B-M.	III.A.1., IV.A.1-4., IV.A.7-8., V.A.1-3., V.B-M.	IV.A.4., V.B., V.C., V.J, VI.
		CH ₄	34 (5)			
		N ₂ O	0.24 (5)			
		CO ₂ e	32,330 (5)			
PLANT-FLR4	LDPE Elevated Flare	CO ₂	30,118	III.A.3., IV.A.7., V.D.	III.A.3., IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CH ₄	11			
		N ₂ O	0.23			
		CO ₂ e	30,466			
LD-014	De-Duster Vent Baghouse	CO ₂	382	III.A.2., IV.A.7., V.D.	III.A.2, IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CH ₄	60			
		CO ₂ e	1871			
LD-015	De-Duster Vent Baghouse	CO ₂	382	III.A.2., IV.A.7., V.D.	III.A.2., IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CH ₄	60			
		CO ₂ e	1871			
LD-002	Emergency generator engine	CO ₂	69 (6)	III.A.4., IV.A.7., V.D.	III.A.4, IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CH ₄	(6)			
		N ₂ O	(6)			
		CO ₂ e	69 (6)			

Major NSR Summary Table

Permit Number: GHGPSDTX47				Issuance Date: 04/19/2021		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
NG-FUG	LDPE Fugitives	CO ₂	(7)	III.A.5., IV.A.7., V.D.	III.A.5, IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CH ₄	(7)			
		CO ₂ e	(7)			
LDPE MSS	LD MSS Vessel opening	CH ₄	(8)	III.A.6., IV.A.7., V.D.	III.A.6, IV.A.1-4., IV.A.7-8., V.D.	IV.A.4., VI.
		CO ₂ e	(8)			

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) CO₂ - carbon dioxide
N₂O - nitrous oxide
CH₄ - methane
CO₂e - carbon dioxide equivalents based on the following Global Warming Potentials (1/2015):
CO₂ (1), N₂O (298), CH₄(25), SF₆ (22,800), HFC (various), PFC (various)
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
- (5) The GHG Mass Basis TPY limit and the CO₂e TPY limit for the RTO applies to both combined.
- (6) These emissions are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
- (7) LDPE fugitives have a PTE of 0.69 TPY CO₂, 20.2 TPY CH₄, and 506 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
- (8) LDPE MSS emissions to the atmosphere from vessel opening (EPN: LDPE-MSS) are estimated to not exceed 0.04 CO₂e. The emission limit will be a design/work practice standard as specified in the permit.



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Formosa Plastics Corporation, Texas
Authorizing the Construction and Operation of
Low Density Polyethylene Plant
Located at Point Comfort, Calhoun County, Texas
Latitude 28° 41' 20" Longitude -96° 32' 50"

Permit: 107520 and PSDTX1384

Amendment Date: December 17, 2020

Expiration Date: August 8, 2024



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] ¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] ¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. ¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

°C = Temperature in degrees Celsius	GLCmax = maximum (predicted) ground-level concentration
°F = Temperature in degrees Fahrenheit	gpm = gallon per minute
°K = Temperature in degrees Kelvin	gr/1000scf = grain per 1000 standard cubic feet
µg = microgram	gr/dscf = grain per dry standard cubic feet
µg/m ³ = microgram per cubic meter	H ₂ CO = formaldehyde
acfm = actual cubic feet per minute	H ₂ S = hydrogen sulfide
AMOC = alternate means of control	H ₂ SO ₄ = sulfuric acid
AOS = alternative operating scenario	HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
AP-42 = Air Pollutant Emission Factors, 5th edition	HC = hydrocarbons
APD = Air Permits Division	HCl = hydrochloric acid, hydrogen chloride
API = American Petroleum Institute	Hg = mercury
APWL = air pollutant watch list	HGB = Houston/Galveston/Brazoria
BPA = Beaumont/ Port Arthur	hp = horsepower
BACT = best available control technology	hr = hour
BAE = baseline actual emissions	IFR = internal floating roof tank
bbl = barrel	in H ₂ O = inches of water
bbl/day = barrel per day	in Hg = inches of mercury
bhp = brake horsepower	IR = infrared
BMP = best management practices	ISC3 = Industrial Source Complex, a dispersion model
Btu = British thermal unit	ISCST3 = Industrial Source Complex Short-Term, a dispersion model
Btu/scf = British thermal unit per standard cubic foot or feet	K = Kelvin; extension of the degree Celsius scaled-down to absolute zero
CAA = Clean Air Act	LACT = lease automatic custody transfer
CAM = compliance-assurance monitoring	LAER = lowest achievable emission rate
CEMS = continuous emissions monitoring systems	lb = pound
cfm = cubic feet (per) minute	hp = horsepower
CFR = Code of Federal Regulations	hr = hour lb/day = pound per day
CN = customer ID number	lb/hr = pound per hour
CNG = compressed natural gas	lb/MMBtu = pound per million British thermal units
CO = carbon monoxide	LDAR = Leak Detection and Repair (Requirements)
COMS = continuous opacity monitoring system	LNG = liquefied natural gas
CPMS = continuous parametric monitoring system	LPG = liquefied petroleum gas
DFW = Dallas/ Fort Worth (Metroplex)	LT/D = long ton per day
DE = destruction efficiency	m = meter
DRE = destruction and removal efficiency	m ³ = cubic meter
dscf = dry standard cubic foot or feet	m/sec = meters per second
dscfm = dry standard cubic foot or feet per minute	MACT = maximum achievable control technology
ED = (TCEQ) Executive Director	MAERT = Maximum Allowable Emission Rate Table
EF = emissions factor	MERA = Modeling and Effects Review Applicability
EFR = external floating roof tank	mg = milligram
EGU = electric generating unit	mg/g = milligram per gram
EI = Emissions Inventory	mL = milliliter
ELP = El Paso	MMBtu = million British thermal units
EPA = (United States) Environmental Protection Agency	MMBtu/hr = million British thermal units per hour
EPN = emission point number	MSDS = material safety data sheet
ESL = effects screening level	MSS = maintenance, startup, and shutdown
ESP = electrostatic precipitator	MW = megawatt
FCAA = Federal Clean Air Act	NAAQS = National Ambient Air Quality Standards
FCCU = fluid catalytic cracking unit	NESHAP = National Emission Standards for Hazardous Air Pollutants
FID = flame ionization detector	NGL = natural gas liquids
FIN = facility identification number	NNSR = nonattainment new source review
ft = foot or feet	NO _x = total oxides of nitrogen
ft/sec = foot or feet per second	
g = gram	
gal/wk = gallon per week	
gal/yr = gallon per year	
GLC = ground level concentration	

NSPS = New Source Performance Standards
PAL = plant-wide applicability limit
PBR = Permit(s) by Rule
PCP = pollution control project
PEMS = predictive emission monitoring system
PID = photo ionization detector
PM = periodic monitoring
PM = total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
PM₁₀ = total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
POC = products of combustion
ppb = parts per billion
ppm = parts per million
ppmv = parts per million (by) volume
psia = pounds (per) square inch, absolute
psig = pounds (per) square inch, gage
PTE = potential to emit
RA = relative accuracy
RATA = relative accuracy test audit
RM = reference method
RVP = Reid vapor pressure
scf = standard cubic foot or feet
scfm = standard cubic foot or feet (per) minute
SCR = selective catalytic reduction
SIL = significant impact levels
SNCR = selective non-catalytic reduction
SO₂ = sulfur dioxide
SOCMI = synthetic organic chemical manufacturing industry
SRU = sulfur recovery unit
TAC = Texas Administrative Code
TCAA = Texas Clean Air Act
TCEQ = Texas Commission on Environmental Quality
TD = Toxicology Division
TLV = threshold limit value
TMDL = total maximum daily load
tpd = tons per day
tpy = tons per year
TVP = true vapor pressure
VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
VRU = vapor recovery unit or system

Special Conditions

Permit Numbers 107520 and PSDTX1384

1. This permit authorizes chemical manufacturing operations for the Low Density Polyethylene Unit (LDPE) located at Point Comfort, Jackson County, Texas.

This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT), and those sources are limited to the emission limits and other conditions specified in that table.

Federal Applicability

2. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60): **(12/20)**
 - A. Subpart A, General Provisions.
 - B. Subpart VVa, Standards of Performance for Equipment Leaks of VOC in SOCMI Industry for Construction after November 7, 2006.
 - C. Subpart DDD, Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.
 - D. Subpart NNN, Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.
 - E. Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:
 - A. Subpart A, General Provisions.
 - B. Subpart FFFF, National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.
4. If any condition of this permit is more stringent than the applicable regulations in Special Condition Nos. 2 and 3 then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

Emission Standards and Operational Specifications

Regenerative Thermal Oxidizers (RTOs) (EPN LD-022)

5. Except during periods of transition and startup, the regenerative thermal oxidizers (RTOs) (EPN LD-022) shall achieve a VOC destruction efficiency of 99% or an outlet VOC concentration of less than 10 ppmv on a dry basis, corrected to 3 percent oxygen. **(12/20)**
 - A. Except during periods of transition between RTOs and startup, the temperature in, or immediately downstream of, the combustion chamber, shall be maintained a minimum of

1400°F and exhaust oxygen concentration not less than 3 percent on a six-minute average while waste gas is being fed into the oxidizer prior to initial stack testing. After the initial stack test has been completed, the six minute average temperature shall be equal to, or greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Special Condition No. 18. **(12/20)**

- B. The RTO firebox combustion chamber temperature shall be continuously monitored and recorded when in operation. The temperature measurement device shall reduce the temperature readings to an averaging period of six minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^\circ\text{C}$. **(12/20)**

Quality assured (or valid) data must be generated when the RTO is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the regenerative oxidizer operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

- C. The oxygen analyzer used to satisfy Special Condition No. 5 shall continuously monitor and record oxygen concentration when waste gas is directed to the oxidizer. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.

The oxygen analyzer shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified Performance Specification No. 3, 40 CFR Part 60, Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

The analyzer shall be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive semiannual audits shall occur no closer than four months. Necessary corrective action shall be taken for all CGA exceedances of ± 15 percent accuracy and any continuous emissions monitoring system downtime in excess of 5 percent of the incinerator operating time. These occurrences and corrective actions shall be reported to the appropriate TCEQ Regional Director on a quarterly basis. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

Quality assured (or valid) data must be generated when the RTO is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the RTO operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded. **(12/20)**

Flare (EPN PLANT-FLR4)

6. The elevated flare system (EPN PLANT-FLR4) shall be designed and operated in accordance with the following requirements: **(12/16)**
- A. The flare system shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity at all times when emissions may be vented to them.
- The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements. **(12/20)**
- B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
- C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. This shall be ensured by the use of steam assist to the flare, as appropriate.
- D. The permit holder shall install a continuous flow monitor and a calorimeter that provide a record of the vent stream flow and Btu content to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition (or Btu content) shall be recorded each hour.
- The flow monitor shall be calibrated or have a calibration check performed on an annual basis to meet the following accuracy specifications: the flow monitor shall be $\pm 5.0\%$, temperature monitor shall be $\pm 2.0\%$ at absolute temperature, and pressure monitor shall be ± 5.0 mm Hg.
- The calorimeter shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to continuously measure and record the net heating value of the gas sent to the flare, in Btus/standard cubic foot of the gas.
- The flow monitor and calorimeter shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR §§60.18(f)(3) and 60.18(f)(4) shall be recorded at least once every hour. **(12/20)**
- E. Fuel gas combusted at this facility shall be sweet natural gas containing no more than 5 grains of total sulfur per 100 dry standard cubic feet

Particulate Matter Control

7. All particulate matter (PM) control systems shall comply with the following:
- A. All PM control systems shall be designed to effectively capture emissions from associated equipment and prevent particulate emissions from escaping.

- B. Each PM emission capture system shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the emission capture system.
- C. All appropriate PM control devices and associated emission capture system covered by this permit shall be maintained in good working order and operated during normal facility operations.
- D. Particulate matter from the exhaust vent of a control device that uses a filter or filters shall not exceed 0.01 grain per dry standard cubic foot (dscf) of air from any vent. This shall be ensured by not having any visible emissions from the exhaust vent of the filtered control device as determined using U.S. Environmental Protection Agency (EPA) Test Method 22. Inspections for visible emissions from each filtered control device shall occur once a quarter when the control device is in operation. The definition of visible emissions shall be in accordance with EPA Test Method 22.

When there are visible emissions from any one filtered vent, the operation associated with that particular filtered vent shall be isolated and shut down in a timely and orderly manner. The isolated filter system shall be tested and inspected. Failed or damaged parts shall be repaired or replaced.

- E. A spare parts filter inventory shall be maintained at the site for this facility.
- F. Records shall be maintained of all inspections and maintenance performed.
- G. The differential pressure across each bag filter shall be continuously monitored and be recorded at least once an hour. The pressure drop across each bag filter shall be maintained within the pressure range in accordance with manufacturer's specifications.

Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5% of the minimum pressure drop necessary to ensure compliance with outlet grain loading of the minimum waste flow or in accordance with the manufacturer's specifications.

Quality assured (or valid) data must be generated during periods that flow is occurring except during the performance of a daily zero check. Loss of valid data due to periods of monitor breakdown, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that each bag filter operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

(12/20)

Fugitives

8. Piping, Valves, Connectors, Pumps, Agitators, and Compressors - 28VHP

Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment:

- A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (VOC) has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition

shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

- (1) piping and instrumentation diagram (PID);
 - (2) a written or electronic database or electronic file;
 - (3) color coding;
 - (4) a form of weatherproof identification; or
 - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.
- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period:

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or
- (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72 hour period following the creation of the open ended line

and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would

create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
 - K. Alternative monitoring frequency schedules of 30 TAC § 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
 - L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.
9. Alternative requirements for the equipment specified in Special Condition No. 8:
- A. In addition to the methods identified in Special Condition No. 8A, exempted components may be identified by process flow diagrams that exhibit sufficient detail to identify major pieces of equipment, including major process flows to, from, and within a process unit. Major equipment includes, but is not limited to, columns, reactors, pumps, compressors, drums, tanks, and exchangers.
 - B. In lieu of the requirements specified in Special Condition No. 8E, new and reworked piping connections may be monitored for leaks using an approved gas analyzer within 30 days of the components being returned to service.
 - C. As an alternative to comparing the daily emission rate of the components on the delay of repair (DOR) list to the total emissions from a unit shutdown per the requirements of Special Condition No. 8, Subparagraph I, the cumulative hourly emission rate of all components on the DOR list may be compared to ten percent of the fugitive short term allowable on the Maximum Allowable Emission Rate Table in order to determine if the TCEQ Regional Director and any local program is to be notified. In addition, the hourly emission rates of each specific compound on the DOR list must be less than ten percent of the specified hourly fugitive emission rate of the same compound.

- D. With respect to Special Condition 8, new and reworked is meant to apply to major changes in piping. It is not intended to apply to minor activities including but not limited to: installation/replacement of small number of valves and flanges; minor repairs; gasket replacement; repair/replacement of small sections of piping, etc. Also, "process pipelines" does not apply to underground process sewer lines, cooling tower water, fire water, etc. Additionally, the requirement for new and reworked buried connectors to be welded will not apply if compliance would require a process unit shutdown or would create a safety issue including, but not limited to, close proximity of other process pipelines and equipment or unsafe access to the piping.
- E. In lieu of the 2000 ppmv VOC limit in Paragraph H of Special Condition 8, damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained.

Planned Maintenance, Startup and Shutdown (MSS)

- 10. This permit authorizes the emissions from the facilities identified for the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment C) attached to this permit.

Attachment A identifies the inherently low emitting MSS activities that may be performed at the plant. Emissions from activities identified in Attachment A shall be considered to be equal to the potential to emit represented in the permit application. The estimated emissions from the activities listed in Attachment A must be revalidated annually. This revalidation shall consist of verifying the estimated emissions for each type of activity and the basis for that emission estimate.

In addition, planned MSS emissions emitted from routine emission points are authorized provided the emissions are compliant with the respective MAERT allowable emission rates and special conditions. This permit authorizes emissions from the following temporary facilities used to support planned MSS activities at permanent site facilities: vacuum trucks and associated control devices (EPN LD-TEMP). Emissions from temporary facilities are authorized provided the temporary facility (a) does not remain on the plant site for more than 12 consecutive months, (b) is used solely to support planned MSS activities at the permanent facilities authorized by this permit, and (c) does not operate as a replacement for an existing authorized facility

Routine maintenance activities, as identified in Attachment B may be tracked through the work orders or equivalent. Emissions from activities identified in Attachment B shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application.

The performance of each planned MSS activity not identified in Attachments A or B and the emissions associated with it shall be recorded and include at least the following information:

- A. the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;
- B. the type of planned MSS activity and the reason for the planned activity;

- C. the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;
- D. the date and time of the MSS activity and its duration;
- E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application, consistent with good engineering practice.

All MSS emissions shall be summed monthly and the rolling 12-month emissions shall be updated on a monthly basis.

- 11. Except for instrumentation/analyzer maintenance and vacuum trucks, process units and facilities shall be depressurized, degassed, and placed back into service in accordance with the following requirements.
 - A. The process equipment shall be vented to a control device or a controlled recovery system during depressurization.
 - B. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment or commencing depressurization, degassing and/or maintenance. Equipment that only contains material with VOC partial pressure less than 0.50 psi at the normal process temperature and 95°F may be opened to the atmosphere after liquids are removed as required by this condition. Liquids must be drained into a closed vessel unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.
 - C. If mixed phase materials must be removed from process equipment during depressurization, liquids removal, or degassing, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. Any vents in the knockout drum or equivalent must be routed to a control device or a controlled recovery system. Control must remain in place while mixed phase material removal is being performed.
 - D. Facilities shall be degassed using practices that ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process equipment or storage vessel design. Records shall be maintained of the control device or recovery system utilized with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.
 - E. After degassing in accordance with Subparagraph D of this Special Condition, the VOC concentration in the facilities being degassed shall be verified to be below 10,000 ppmv or less than 10 percent of the lower explosive limit (LEL) using one of the methods below prior to opening directly to atmosphere.
 - (1) For MSS activities other than process unit startup, shutdown, hydroblasting, or turnaround, the following option may be used in lieu of (2) below. The facilities being prepared for maintenance shall not be vented directly to atmosphere, except as necessary to verify an acceptable VOC concentration and establish isolation of the work area, until the VOC concentration has been verified to be less than 10 percent of the lower explosive limit (LEL) per the site safety procedures.
 - (2) Documentation shall be maintained of the locations and/or identifiers where the purge gas or steam enters the process equipment or storage vessel and the exit points for

the purge gases. If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify acceptable VOC concentration prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument meeting the requirements of Special Condition 12. The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or less than 10 percent of the lower explosive limit (LEL). Documented plant procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above.

- F. Gases and vapors with VOC partial pressure greater than 0.50 psi may be vented directly to atmosphere if all the following criteria are met:

- (1) It is not technically practicable to depressurize or degas, as applicable, into the process.
- (2) There is not an available connection to a plant control system (flare).
- (3) There is no more than 50 lb of air contaminant to be vented to atmosphere during shutdown or startup, as applicable.

Except for Attachment A activities, all instances of venting directly to atmosphere per Special Condition 11 F must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the activity record for those planned MSS activities.

12. Air contaminant concentration shall be measured using an instrument/detector meeting one of the following methods:

- A. VOC concentration shall be measured using an instrument meeting all the requirements specified in EPA Method 21 (40 CFR 60, Appendix A) with the following exceptions:

- (1) The instrument shall be calibrated within 24 hours of use with a calibration gas such that the response factor of the VOC (or mixture of VOCs) to be monitored shall be less than 2.0. The calibration gas and the gas to be measured, and its approximate response factor shall be recorded. If the RF of the VOC (or mixture of VOCs) to be monitored is greater than 2.0, the VOC concentration shall be determined as follows:

VOC Concentration = Concentration as read from the instrument*RF

In no case should a calibration gas be used such that the RF of the VOC (or mixture of VOCs) to be monitored is greater than 5.0.

- (2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. As an alternative the VOC concentration may be monitored over a five-minute period with an instrument designed to continuously measure concentration and record the highest

concentration read. The highest measured VOC concentration shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

- B. Colorimetric gas detector tubes may be used to determine air contaminant concentrations if they are used in accordance with the following requirements.
- (1) The air contaminant concentration measured is less than 80 percent of the range of the tube. If the maximum range of the tube is greater than the release concentration defined in (3), the concentration measured is at least 20 percent of the maximum range of the tube.
 - (2) The tube is used in accordance with the manufacturer's guidelines.
 - (3) At least 2 samples taken at least 5 minutes apart must satisfy the following prior to uncontrolled venting:
measured contaminant concentration (ppmv) < release concentration.
Where the release concentration is:
10,000*mole fraction of the total air contaminants present that can be detected by the tube.
 - (4) The mole fraction may be estimated based on process knowledge. The release concentration and basis for its determination shall be recorded.
 - (5) Records shall be maintained of the tube type, range, measured concentrations, and time the samples were taken.
- C. Lower explosive limit measured with a lower explosive limit detector.
- (1) The detector shall be calibrated monthly with a certified propane gas standard at 50 percent of the LEL for propane. Records of the calibration date and time and the calibration result (pass/fail) shall be maintained.
 - (2) A daily functionality test shall be performed on each with a certified gas standard at 50% of the LEL for propane. The LEL detector shall read no lower than 90 percent of the calibration gas certified value. Records, including the date/time and the test results shall be maintained.
 - (3) A certified methane gas standard equivalent to 50% percent of the LEL for propane may be used for calibration and functionality tests provided that the LEL response is within 95 percent of that for propane.
- D. As an alternative to an instrument/detector, the analysis may be conducted in a laboratory. Bag samples of the gas discharged may be drawn and taken to a Formosa laboratory to be analyzed by gas chromatography (GC). A minimum of two bag samples shall be drawn approximately ten minutes apart. A Tedlar bag, or a bag appropriate for the material to be sampled, shall be used and shall have a valve to seal gas in the bag. The samples shall be drawn as follows:
- (1) The sample point on the equipment being cleared shall be purged sufficiently to ensure a representative sample at the sample valve.
 - (2) The sample bag shall be connected directly to the sample valve.
 - (3) The sample valve and sample bag shall be opened to allow the bag to fill to approximately 80% of capacity. The sample connections shall be fitted such that no air is drawn into the sample bag.

- (4) The two valves shall then be closed to seal the sample in the bag.
- (5) The sample bag shall then be disconnected and placed in a dark container out of direct sunlight for transport to the analyzer.
- (6) This process is repeated to collect additional samples.
- (7) The sample shall be analyzed within 12 hours of collection.

The laboratory GC shall meet or exceed the requirements of 40 CFR 60, Appendix A, Method 18 Sections 6 (Equipment and Supplies), 7 (Reagents and Standards), 9 (Quality Control), and 10 (Calibration and Standards). The sample shall be analyzed per Section 8.2.1.1.2 of Method 18, except the analysis does not need to be performed in triplicate. The highest measured VOC concentration shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

13. The following requirements apply to vacuum and air mover truck operations to support planned MSS at this site:
- A. Vacuum pumps and blowers shall not be operated on trucks containing or vacuuming liquids with VOC partial pressure greater than 0.50 psi at 95°F unless the vacuum/blower exhaust is routed to a control device or a controlled recovery system.
 - B. Equip fill line intake with a “duckbill” or equivalent attachment if the hose end cannot be submerged in the liquid being collected.
 - C. A daily record containing the information identified below is required for each vacuum truck in operation at the site each day.
 - (1) Prior to initial use, identify any liquid in the truck and the truck identifier (bill of lading or other unique identifier). Record the liquid level and document that the VOC partial pressure is less than 0.50 psi if the vacuum exhaust is not routed to a control device or a controlled recovery system. After each liquid transfer, identify the liquid transferred and document that the VOC partial pressure is less than 0.50 psi if the vacuum exhaust is not routed to a control device or a controlled recovery system.
 - (2) For each liquid transfer made with the vacuum operating, record the duration of any periods when air may have been entrained with the liquid transfer. The reason for operating in this manner and whether a “duckbill” or equivalent was used shall be recorded. Short, incidental periods, such as those necessary to walk from the truck to the fill line intake, do not need to be documented.
 - (3) If the vacuum truck pump exhaust is controlled with a control device other than an engine or oxidizer, records shall be maintained of VOC exhaust concentration upon commencing each transfer, at the end of each transfer, and at least every hour during each transfer, measured using an instrument meeting the requirements of Special Condition 12.
 - (4) The volume in the vacuum truck at the end of the day, or the volume unloaded, as applicable.
 - D. The permit holder shall determine the vacuum truck emissions each month using the daily vacuum truck records and the calculation methods utilized in the permit application. If records of the volume of liquid transferred for each pick-up are not maintained, the emissions shall be determined using the physical properties of the liquid vacuumed with the greatest potential

emissions. Rolling 12 month vacuum truck emissions shall also be determined on a monthly basis.

- E. If the VOC partial pressure of all the liquids vacuumed into the truck is less than 0.10 psi, this shall be recorded when the truck is unloaded or leaves the plant site and the emissions may be estimated as the maximum potential to emit for a truck in that service as documented in the permit application. The recordkeeping requirements in Paragraphs A through D of this condition do not apply.
- 14. Bag filter maintenance shall be performed in a manner to minimize particulate matter emissions and minimize down time.
- 15. MSS activities represented in the permit application may be authorized under permit by rule only if the procedures, emission controls, monitoring, and recordkeeping are the same as those required by this permit.
- 16. Control devices required by this permit for emissions from planned MSS activities are limited to those types identified in this condition. Control devices shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Each device used must meet all the requirements identified for that type of control device.

Controlled recovery systems identified in this permit shall be directed to an operating process or to a collection system that is vented through a control device (EPN LD-TEMP) meeting the requirements of this permit condition.

A. Carbon Adsorption System (CAS).

- (1) The CAS shall consist of 2 carbon canisters in series with adequate carbon supply for the emission control operation.
- (2) The CAS shall be sampled downstream of the first can and the concentration recorded at least once every hour of CAS run time to determine breakthrough of the VOC. The sampling frequency may be extended using either of the following methods:
 - (a) It may be extended to up to 30 percent of the minimum potential saturation time for a new can of carbon. The permit holder shall maintain records including the calculations performed to determine the minimum saturation time.
 - (b) The carbon sampling frequency may be extended to longer periods based on previous experience with carbon control of a MSS waste gas stream. The past experience must be with the same VOC, type of facility, and MSS activity. The basis for the sampling frequency shall be recorded. If the VOC concentration on the initial sample downstream of the first carbon canister following a new polishing canister being put in place is greater than 100 ppmv above background, it shall be assumed that breakthrough occurred while that canister functioned as the final polishing canister and a permit deviation shall be recorded.
- (3) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition 12.
- (4) Breakthrough is defined as the highest measured VOC concentration at or exceeding 100 ppmv above background. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second

canister and a fresh canister shall be placed as the new final polishing canister within four hours. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.

- (5) Records of CAS monitoring shall include the following:
 - (a) Sample time and date.
 - (b) Monitoring results (ppmv).
 - (c) Canister replacement log.
- (6) Single canister systems are allowed if the time the carbon canister is in service is limited to no more than 30% of the minimum potential saturation time. The permit holder shall maintain records for these systems, including the calculations performed to determine the saturation time. The time limit on carbon canister service shall be recorded and the expiration date attached to the carbon can.

B. Thermal Oxidizer.

- (1) The thermal oxidizer firebox exit temperature shall be maintained at not less than 1400°F and waste gas flows shall be limited to assure at least a 0.5 second residence time in the fire box while waste gas is being fed into the oxidizer.
- (2) The thermal oxidizer exhaust temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurements shall be made at intervals of six minutes or less and recorded at that frequency.

The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^{\circ}\text{C}$.

C. Internal Combustion Engine.

- (1) The internal combustion engine shall have a VOC destruction efficiency of at least 99 percent.
- (2) The engine must have been stack tested with butane to confirm the required destruction efficiency within the past 12 months. VOC shall be measured in accordance with the applicable United States Environmental Protection Agency (EPA) Reference Method during the stack test and the exhaust flow rate may be determined from measured fuel flow rate and measured oxygen concentration. A copy of the stack test report shall be maintained with the engine. There shall also be documentation of acceptable VOC emissions following each occurrence of engine maintenance which may reasonably be expected to increase emissions including oxygen sensor replacement and catalyst cleaning or replacement. Stain tube indicators specifically designed to measure VOC concentration shall be acceptable for this documentation, provided a hot air probe or equivalent device is used to prevent error due to high stack temperature, and three sets of concentration measurements are made and averaged. Portable VOC analyzers meeting the requirements of Special Condition 12 are also acceptable for this documentation.
- (3) The engine shall be operated with an oxygen sensor-based air-to-fuel ratio (AFR) controller. Documentation for each AFR controller that the manufacturer's, or supplier's recommended maintenance has been performed, including replacement of

the oxygen sensor as necessary for oxygen sensor-based controllers shall be maintained with the engine. The oxygen sensor shall be replaced at least quarterly in the absence of a specific written recommendation.

- D. The plant flare system (EPN PLANT-FLR4) or a temporary flare.
- E. A liquid scrubbing system may be used upstream of carbon adsorption. A single carbon can or a liquid scrubbing system may be used as the sole control device if the requirements below are satisfied.
 - (1) The exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the scrubber.
 - (2) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition 12.
 - (3) An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible when the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded.
- F. A closed loop refrigerated vapor recovery system
 - (1) The vapor recovery system shall be installed on the facility to be degassed using good engineering practice to ensure air contaminants are flushed from the facility through the refrigerated vapor condensers and back to the facility being degassed. The vapor recovery system and facility being degassed shall be enclosed except as necessary to insure structural integrity (such as roof vents on a floating roof tank).
 - (2) VOC concentration in vapor being circulated by the system shall be sampled and recorded at least once every 4 hours at the inlet of the condenser unit with an instrument meeting the requirements of Special Condition No. 12.
 - (3) The quantity of liquid recovered from the tank vapors and the tank pressure shall be monitored and recorded each hour. The liquid recovered must increase with each reading and the tank pressure shall not exceed one inch water pressure while the system is operating.

Cooling Tower (EPN LD-CT)

- 17. The cooling tower (EPN LD-CT) shall be operated and monitored in accordance with the following:
 - A. The VOC associated with cooling tower water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12 month period. The emissions between VOC monitoring periods shall be obtained by multiplying the

total cooling water mass flow between cooling water monitoring periods by the higher of the 2 VOC monitored results.

- B. Each cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.001% drift or less. Drifts eliminators shall be maintained and inspected at least annually. The permit holder shall maintain records of all inspections and repairs.
- C. Total dissolved solids (TDS) shall not exceed 6,500 parts per million by weight (ppmw) in any sample and 4,150 ppmw averaged over a rolling 12-month period. Dissolved solids in the cooling water drift are considered to be emitted as PM, PM₁₀, and PM_{2.5} as represented in the permit application calculations. **(12/20)**
- D. Cooling towers shall be analyzed for particulate emissions using one of the following methods:
 - (1) Cooling water shall be sampled at least once per day for total dissolved solids (TDS); or
 - (2) TDS sampling may be reduced to weekly if conductivity is monitored daily and TDS is calculated using a ratio of TDS-to-conductivity (in ppmw per $\mu\text{mho}/\text{cm}$ or ppmw/siemens). The ratio of TDS-to-conductivity shall be determined by concurrently monitoring TDS and conductivity on a weekly basis (the permit application TDS/conductivity conversion factor of 0.67 may be used initially for a period not to exceed 180 days until a site specific demonstrated value is determined). The permit holder may use the average of two consecutive TDS-to-conductivity ratios to calculate daily TDS; or
 - (3) TDS sampling may be reduced to quarterly if conductivity is monitored daily and TDS is calculated using a correlation factor established for each cooling tower. The correlation factor shall be the average of four consecutive weekly TDS-to-conductivity ratios determined using Condition No. (2) above provided the highest ratio is not more than 10% larger than the smallest ratio.

The permit holder shall validate the TDS-to-conductivity correlation factor once semi-annually. If the ratio of concurrently sampled TDS and conductivity is more than 10% higher or lower than the established factor, the permit holder shall increase TDS monitoring to weekly until a new correlation factor can be established.
- E. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.
 - (1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection, and transferred to a laboratory area for analysis.
 - (2) The analysis method for conductivity shall be either ASTM D1125-95A (field or routine laboratory testing) or ASTM D1125-95B (continuous monitor). The analysis may be conducted at the sample site or with a calibrated process conductivity meter. If a conductivity meter is used, it shall be calibrated at least annually. Documentation of the method and any associated calibration records shall be maintained.
 - (3) Alternate sampling and analysis methods may be used to comply with E(1) and E(2) with written approval from the TCEQ Regional Director.
 - (4) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.

- F. Annual (12 month rolling average) and short-term emission rates of PM, PM₁₀ and PM_{2.5} shall be calculated using the measured TDS and the ratio or correlation of TDS to conductivity measurements, the design drift rate and the daily maximum and average actual cooling water circulation rate for the short term and annual average rates. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated monthly. Dissolved solids in the cooling water drift are considered to be emitted as PM, PM₁₀, and PM_{2.5} as represented in the permit application calculations.

Initial Demonstration of Compliance

18. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from one the RTO (EPN LD-022) to demonstrate compliance with the MAERT. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

- A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:
- (1) Proposed date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.
 - (5) Method or procedure to be used in sampling.
 - (6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
 - (7) Procedure/parameters to be used to determine worst case emissions during the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

- (a) Air contaminants emitted from the RTO to be tested include (but are not limited to) VOC or VOC destruction efficiency, NO_x and CO.
- (b) Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

- (c) The facility being sampled shall operate at a minimum of 80 percent of the design firing rate during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.
- (d) During subsequent operations, if the firing rate is more than 10 percent higher than the firing rate during the previous stack test, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.
- (e) Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed to the appropriate TCEQ Regional Office and each local air pollution control program, as required.

Continuous Demonstration of Compliance

- 19. Compliance with the MAERT emission limits for the pellet dryer (LD-013), RTO (LD-022) and downstream of the degassing silos polymer handling (LD-14 through LD-20) shall be determined, by calculation, using the limits, production rates and results from polymer sampling and testing specified in this condition.
 - A. Total VOC emitted to the atmosphere from the pellet dryer (LD-013), RTO (LD-022) and pellet blending and loading silos (LD-14 through LD-20) shall not exceed 155 pounds of VOC/million (MM) pounds of product polymer.
 - B. The permit holder shall sample and test the polymer for residual VOC as follows:
 - (1) Collect three samples of pellets monthly from each of the locations described in (2) below.
 - (2) Samples of pellets shall be taken
 - (a) At the following locations, for twelve months after start of operation, to establish the expected distribution of emissions from the pellet dryer (LD-013), RTO (LD-022) and pellet handling downstream of the degassing silos (LD-14 through LD-20):
 - i. downstream of the extruder (E),
 - ii. downstream of the pellet dryer (P),
 - iii. downstream of the degassing silos (D); and
 - iv. at final product loading (L).

- (b) After establishing the distribution of emissions based on subparagraph A.(2)(a) of this permit condition, samples are required:
 - i. downstream of the extruder (E), and
 - ii. at final product loading(L)
 - iii. Additional samples may be taken at the discretion of FPC TX if it is determined by FPC TX that more samples are appropriate to provide an accurate representation of emission rates.
 - (3) The polymer production rate and the polymer product number being produced shall be recorded at the time of sampling.
 - (4) Sampling shall begin no later than 60 days after initial start-up of this facility.
 - (5) Testing of the polymer shall be performed using a headspace analysis method which measures the pounds of VOC per MM pounds of polymer (ppmw) which could potentially be emitted.
 - (6) Alternate sampling and testing methods shall be approved by the TCEQ Regional Office.
- C. For the emission points below, the VOC emissions (lbs) shall be calculated, on a calendar month basis, no later than the end of the following calendar month, as follows:
 - (1) For the first twelve months of sampling, by multiplying the monthly average polymer residual VOC (ppmw) sample results (described in A.(2)(a) of this permit condition) by the monthly production rate. Calculations shall take into account any changes in product type during the month.
$$\text{Pellet Dryer emissions} = (E-P) \times \text{Polymer Production.}$$
$$\text{RTO emissions} = (P-D) \times \text{Polymer Production} \times ((100-99)/100)$$
$$\text{Emission downstream of the degassing silos} = (D-L) \times \text{Polymer Production}$$
 - (2) After the distribution of emissions is established (as described in A(2)(a) of this provision), by multiplying the monthly average polymer residual VOC (ppmw) sample results (E-L) by the monthly production rate and the fraction of the total emissions expected to be emitted from each emission point (F_{epn}) established during sampling (described in A.(2)(a) of this permit condition). Calculations shall take into account any changes in product type during the month.
$$\text{Pellet Dryer emissions} = (E-L) \times \text{Polymer Production} \times \text{FPD}$$
$$\text{RTO emissions} = (E-L) \times \text{Polymer Production} \times \text{FRTO} \times ((100-99)/100)$$
$$\text{Emission downstream of the degassing silos} = (E-L) \times \text{Polymer Production} \times \text{FDS}$$
- D. The rolling 12-month VOC emissions shall be calculated as the sum of the calculated VOC emissions for the current month and the monthly calculated emissions for the preceding 11 months.
- E. Polymer production rates and monitoring records to be maintained at the plant site shall include (but are not limited to):
 - (1) Date and time of polymer samples;

- (2) Polymer Production (MM pounds/hr of Polymer) at the time of sample and monthly production rate;
- (3) Product number and melt index;
- (4) Measured and monthly average residual VOC in the polymer (ppmw), resulting from the samples and analysis specified in Subparagraph A. of this permit condition.
- (5) Emission calculations for the pellet dryer (LD-013), RTO (LD-022) and downstream of the degassing silos polymer handling (LD-14 through LD-20):
 - (a) Calculated monthly VOC emissions in lbs/month; and
 - (b) Calculated total rolling 12-month VOC emissions, in tons per year.

Compliance Assurance Monitoring (CAM)

20. The following requirements apply to the capture systems for the Elevated Flare (EPN PLANT-FLR4): **(12/20)**
 - A. Either conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background. **(12/20)**
 - B. If the control device is equipped with a bypass, the permit holder shall comply with either of the following requirements:
 - (1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or
 - (2) Once a month, inspect the valves, verifying that the position of the valves and the condition of the car seals prevent flow out the bypass.

A bypass does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when it is required to be in service.
 - C. Records of the inspections required shall be maintained and if the results of any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.

Recordkeeping

21. The permit holder shall maintain the records required by this permit electronically or in hard copy format for at least five years. These records shall be used to demonstrate compliance with the Special Conditions and the limits specified in the MAERT.

Prevention of Significant Deterioration

22. This Prevention of Significant Deterioration (PSD) permit (PSDTX1384), authorizing project increases of VOC (171.33 tpy) is conditioned on permit application representations (e.g., PI-1 dated December 21, 2012, its updated submittals of April 25, 2013 and November 26, 2013, and Tables 1F & 2F depicting the contemporaneous period between 4Q 2008 and 4Q 2015).

Emergency Diesel Generator (EPN LD-002)

23. The following requirements apply to the Emergency Diesel Generator (EPN LD-002): **(12/20)**
- A. Fuel for each diesel engine shall be limited to ultra-low sulfur diesel (ULSD) containing no more than 15 ppmw total sulfur.
 - B. Each diesel engine shall be limited to 100 hours per year during non-emergency situations, as defined at 40 CFR § 63.6640(f).
 - C. Each diesel engine shall be equipped with a non-resettable hour meter.
 - D. There shall be no visible emissions exceeding 30 seconds in any six-minute period as determined using U.S. EPA Test Method 22.

Date: December 17, 2020

Attachment A

Permit Numbers 107520 and PSDTX1384

INHERENTLY LOW EMITTING ACTIVITIES

Activity	Emissions			
	VOC	NO _x	CO	PM
Baghouse and Bagfilter Maintenance	x			x
Blower Maintenance	x			
Column & Tower Maintenance	x	x	x	
Dryer Maintenance	x			x
Extruder Maintenance	x			x
Filter/Strainer Maintenance and Replacement	x	x	x	x
Incinerator Maintenance	x			
Small Silo Maintenance	x			x
Transmitter Maintenance (including high pressure transmitters)	x	x	x	
Valve Maintenance and Replacement	x	x	x	
Miscellaneous ILE Activities	x			
Mix Pump Maintenance				x
Solid Feed System Maintenance				x

Date: August 8, 2014

Attachment B

Permit Numbers 107520 and PSDTX1384

ROUTINE MAINTENANCE ACTIVITIES

Piping repair, replacement and maintenance (including fugitive components)

Tank maintenance

Reactor maintenance

Large silo maintenance

Compressor maintenance

Heat exchanger equipment maintenance

Pump maintenance

Drum and separator maintenance

Vacuum Trucks

Date: August 8, 2014

Attachment C

Permit Numbers 107520 and PSDTX1384

MSS ACTIVITY SUMMARY

Facilities	Description	Emissions Activity	EPN
all process units and tanks	process unit and tank shutdown/depressurize/purge/drain	vent to flare or temporary control device	PLANT-FLR4, LD-TEMP
all process units	process unit open to atmosphere	vent to atmosphere	LD-MSS
all process units	process unit startup	vent to flare or temporary control device	PLANT-FLR4, LD-TEMP
all facilities	preparation for facility/component repair/replacement/main tenance	vent to flare or temporary control device	PLANT-FLR4, LD-TEMP
all facilities	open to atmosphere for facility/component repair/replacement/main tenance	vent to atmosphere	LD-MSS
all facilities	Return to service after facility/component repair/replacement/main tenance	vent to flare or temporary control device	PLANT-FLR4, LD-TEMP
all tanks	tank cleaning	cleaning activity	LD-MSS
see Attachment A	miscellaneous low emitting activities	see Attachment A	LD-MSS

Date: December 30, 2016

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 107520 and PSDTX1384

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
LD-001	Process Fugitives (5)	VOC	6.59	28.87
		Chlorine	0.11	0.50
		Organic Peroxides	1.74	7.63
LD-002	Emergency Diesel Generator	VOC	12.77	0.64
		NO _x	12.77	0.64
		CO	6.92	0.35
		SO ₂	0.01	<0.01
		PM	0.40	0.02
		PM ₁₀	0.40	0.02
		PM _{2.5}	0.40	0.02
LD-003	Diesel Tank	VOC	0.06	<0.01
LD-004	Spent Lube Oil Loading	VOC	0.54	<0.01
LD-005A	Wax Loading	VOC	0.15	0.11
LD-005B	Wax Loading	VOC	0.15	0.11
LD-006	VA Column Bottoms Loading	VOC	0.89	<0.01
LD-007	Peroxide Charge Vent	VOC	<0.01	<0.01
LD-008	Peroxide Collector Vent	VOC	0.93	0.17
LD-009	Transition/blending/storage Silo Vent	PM	0.06	0.28
		PM ₁₀	0.06	0.28
		PM _{2.5}	0.06	0.28
LD-010	Virgin pellets/blend/storage Silo Vent	PM	0.06	0.28
		PM ₁₀	0.06	0.28
		PM _{2.5}	0.06	0.28
LD-011	Master-Batch Silo Vent	PM	0.07	0.32
		PM ₁₀	0.07	0.32
		PM _{2.5}	0.07	0.32
LD-012	Extruder Building Vent	VOC	<0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
LD-013	Pellet Dryer Vent	PM	0.27	1.20
		PM ₁₀	0.27	1.20
		PM _{2.5}	0.27	1.20
		VOC	14.41	35.22
LD-014	De-Duster Vent Baghouse	PM	0.03	0.12
		PM ₁₀	0.03	0.12
		PM _{2.5}	0.03	0.12
LD-015	De-Duster Vent Baghouse	PM	0.03	0.15
		PM ₁₀	0.03	0.15
		PM _{2.5}	0.03	0.15
LD-014, LD-015	De-Duster Vents VOC Cap	VOC	0.25	1.11
LD-016	Elutriator Vent Baghouse	PM	0.12	0.54
		PM ₁₀	0.12	0.54
		PM _{2.5}	0.12	0.54
LD-017	Elutriator Vent Baghouse	PM	0.12	0.54
		PM ₁₀	0.12	0.54
		PM _{2.5}	0.12	0.54
LD-018	Hopper Car Heel Baghouse	PM	0.02	0.11
		PM ₁₀	0.02	0.11
		PM _{2.5}	0.02	0.11
LD-019	Master-batch Transfer Line De-Duster Vent Baghouse	PM	0.03	0.12
		PM ₁₀	0.03	0.12
		PM _{2.5}	0.03	0.12
LD-016 through LD-019	Pellet Load-out Filters VOC CAP	VOC	1.36	5.96
LD-020	Recycle/Masterbatch/Off Grade Pellet Silo Vent	PM	0.14	0.61
		PM ₁₀	0.14	0.61
		PM _{2.5}	0.14	0.61
LD-021	Pellet Hopper Car Pre-Load Prep (Vacuum Vent)	PM	0.01	0.06
		PM ₁₀	0.01	0.06
		PM _{2.5}	0.01	0.06

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
LD-022	RTO 1 and RTO 2	VOC	2.20	39.83
		VOC (RTO Transitioning)	206.08	
		NO _x	1.76	4.68
		CO	2.47	6.55
		SO ₂	0.02	0.04
		PM	0.22	0.59
		PM ₁₀	0.22	0.59
		PM _{2.5}	0.22	0.59
LD-CT	Cooling Tower	VOC	1.25	5.48
		HCIO	<0.01	<0.01
		PM	1.63	4.55
		PM ₁₀	0.38	1.65
		PM _{2.5}	<0.01	<0.01
LD-MSS	MSS Fugitives	VOC	71.65	2.24
		PM	0.57	0.06
		PM ₁₀	0.15	0.03
		PM _{2.5}	0.14	0.02
PLANT-FLR4	LDPE Elevated Flare	VOC	5.96	12.49
		NO _x	2.06	7.63
		CO	3.80	9.65
		SO ₂	0.01	0.04
PLANT-FLR4	LDPE MSS at Plant 4 Elevated Flare	VOC	914.61	68.77
		NO _x	108.86	8.36
		CO	560.78	43.06

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO_x - total oxides of nitrogen
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
- PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- HCIO - hypochlorous acid

Emission Sources - Maximum Allowable Emission Rates

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: December 17, 2020



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Formosa Plastics Corporation, Texas
Authorizing the Continued Operation of
Formosa Point Comfort Plant
Located at Point Comfort, Jackson County, Texas
Latitude 28° 41' 20" Longitude -96° 32' 50"

Permits: GHGPSDTX47

Issuance Date: April 19, 2021



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] ¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] ¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. ¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

°C = Temperature in degrees Celsius	GLCmax = maximum (predicted) ground-level concentration
°F = Temperature in degrees Fahrenheit	gpm = gallon per minute
°K = Temperature in degrees Kelvin	gr/1000scf = grain per 1000 standard cubic feet
µg = microgram	gr/dscf = grain per dry standard cubic feet
µg/m ³ = microgram per cubic meter	H ₂ CO = formaldehyde
acfm = actual cubic feet per minute	H ₂ S = hydrogen sulfide
AMOC = alternate means of control	H ₂ SO ₄ = sulfuric acid
AOS = alternative operating scenario	HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
AP-42 = Air Pollutant Emission Factors, 5th edition	HC = hydrocarbons
APD = Air Permits Division	HCl = hydrochloric acid, hydrogen chloride
API = American Petroleum Institute	Hg = mercury
APWL = air pollutant watch list	HGB = Houston/Galveston/Brazoria
BPA = Beaumont/ Port Arthur	hp = horsepower
BACT = best available control technology	hr = hour
BAE = baseline actual emissions	IFR = internal floating roof tank
bbl = barrel	in H ₂ O = inches of water
bbl/day = barrel per day	in Hg = inches of mercury
bhp = brake horsepower	IR = infrared
BMP = best management practices	ISC3 = Industrial Source Complex, a dispersion model
Btu = British thermal unit	ISCST3 = Industrial Source Complex Short-Term, a dispersion model
Btu/scf = British thermal unit per standard cubic foot or feet	K = Kelvin; extension of the degree Celsius scaled-down to absolute zero
CAA = Clean Air Act	LACT = lease automatic custody transfer
CAM = compliance-assurance monitoring	LAER = lowest achievable emission rate
CEMS = continuous emissions monitoring systems	lb = pound
cfm = cubic feet (per) minute	hp = horsepower
CFR = Code of Federal Regulations	hr = hour lb/day = pound per day
CN = customer ID number	lb/hr = pound per hour
CNG = compressed natural gas	lb/MMBtu = pound per million British thermal units
CO = carbon monoxide	LDAR = Leak Detection and Repair (Requirements)
COMS = continuous opacity monitoring system	LNG = liquefied natural gas
CPMS = continuous parametric monitoring system	LPG = liquefied petroleum gas
DFW = Dallas/ Fort Worth (Metroplex)	LT/D = long ton per day
DE = destruction efficiency	m = meter
DRE = destruction and removal efficiency	m ³ = cubic meter
dscf = dry standard cubic foot or feet	m/sec = meters per second
dscfm = dry standard cubic foot or feet per minute	MACT = maximum achievable control technology
ED = (TCEQ) Executive Director	MAERT = Maximum Allowable Emission Rate Table
EF = emissions factor	MERA = Modeling and Effects Review Applicability
EFR = external floating roof tank	mg = milligram
EGU = electric generating unit	mg/g = milligram per gram
EI = Emissions Inventory	mL = milliliter
ELP = El Paso	MMBtu = million British thermal units
EPA = (United States) Environmental Protection Agency	MMBtu/hr = million British thermal units per hour
EPN = emission point number	MSDS = material safety data sheet
ESL = effects screening level	MSS = maintenance, startup, and shutdown
ESP = electrostatic precipitator	MW = megawatt
FCAA = Federal Clean Air Act	NAAQS = National Ambient Air Quality Standards
FCCU = fluid catalytic cracking unit	NESHAP = National Emission Standards for Hazardous Air Pollutants
FID = flame ionization detector	NGL = natural gas liquids
FIN = facility identification number	NNSR = nonattainment new source review
ft = foot or feet	NO _x = total oxides of nitrogen
ft/sec = foot or feet per second	
g = gram	
gal/wk = gallon per week	
gal/yr = gallon per year	
GLC = ground level concentration	

NSPS = New Source Performance Standards
 PAL = plant-wide applicability limit
 PBR = Permit(s) by Rule
 PCP = pollution control project
 PEMS = predictive emission monitoring system
 PID = photo ionization detector
 PM = periodic monitoring
 PM = total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
 PM₁₀ = total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 POC = products of combustion
 ppb = parts per billion
 ppm = parts per million
 ppmv = parts per million (by) volume
 psia = pounds (per) square inch, absolute
 psig = pounds (per) square inch, gage
 PTE = potential to emit
 RA = relative accuracy
 RATA = relative accuracy test audit
 RM = reference method
 RVP = Reid vapor pressure
 scf = standard cubic foot or feet
 scfm = standard cubic foot or feet (per) minute
 SCR = selective catalytic reduction
 SIL = significant impact levels
 SNCR = selective non-catalytic reduction
 SO₂ = sulfur dioxide
 SOCM = synthetic organic chemical manufacturing industry
 SRU = sulfur recovery unit
 TAC = Texas Administrative Code
 TCAA = Texas Clean Air Act
 TCEQ = Texas Commission on Environmental Quality
 TD = Toxicology Division
 TLV = threshold limit value
 TMDL = total maximum daily load
 tpd = tons per day
 tpy = tons per year
 TVP = true vapor pressure
 VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 VRU = vapor recovery unit or system

Formosa Plastics Corporation, Texas (GHG-PSD-TX-47)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Draft Permit Conditions

PROJECT DESCRIPTION

The Formosa Plastics Corporation, Texas proposes to expand the Formosa chemical complex within the existing Point Comfort site footprint. Formosa proposed to add a new Low Density Polyethylene (LDPE) plant. In the proposed new LDPE plant the polymerization process will be accomplished with a high pressure tubular reactor process. The LDPE plant commenced operation on November 09, 2020. The LDPE plant has the capability of producing 625,500 tons per year (TPY) (1,253 million pounds per year) of LDPE products. The LDPE products consists of different grades including products that use vinyl acetate as a co-monomer.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit. (04/21)

FIN	EPN	Description
LD-022	LD-022	Two (2) 18.0 MMBtu/hr regenerative thermal oxidizers
PLANT-FLR4	PLANT-FLR4	LDPE Elevated Flare
LD-014	LD-014	De-Duster Vent Baghouse
LD-015	LD-015	De-Duster Vent Baghouse
LD-002	LD-002	Emergency Engine 1207 HP
NG-FUG	NG-FUG	Natural Gas Piping Fugitives
LD-MSS	LD-MSS	LDPE MSS Vessel Opening

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR § 52.21(r), this PSD permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR § 52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR § 52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified. Construction of the LDPE was completed on October 14, 2020.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR § 60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail, or other means identified by EPA, within 48 hours following the discovery of any failure of air pollution control equipment, process

equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.

2. Within 10 days of the discovery of any GHG emissions above the allowable emission limits resulting from malfunctions as described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD permit are severable, and, if any provision of the PSD permit is held invalid, the remainder of this PSD permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

- Permittee shall construct this project in compliance with this PSD permit, the application on which this permit is based, the TCEQ PSD Permit GHG-PSD-TX-47(when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act. **(04/21)**
- Permit holders must keep records sufficient to demonstrate compliance with 30 Texas Administrative Code § 116.164. Records shall be sufficient to demonstrate the amount of emissions of GHGs from the source as a result of construction, a physical change or a change in method of operation does not require authorization under 30 TAC §116.164(a). Records shall be maintained for a period of five years after collection. **(04/21)**
- Permit holders shall maintain a file of all records, data measurements, reports and documents for the emission sources authorized in this permit including, but not limited to, the following: annual emissions, all records or reports pertaining to maintenance performed, all records relating to compliance with the Monitoring and Quality Assurance and Quality Control procedures outlined in 40 CFR § 98. Records shall be maintained for a period of five years after collection. **(04/21)**

I. ACRONYMS AND ABBREVIATIONS

AVO	Auditory, Visual, and Olfactory
BACT	Best Available Control Technology
Bhp	Brake Horsepower
Btu	British thermal unit
C ₃ +	Hydrocarbon with Three or More Carbon Atoms
CAA	Clean Air Act
CC	Carbon Content
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry Standard Cubic Foot
EF	Emission Factor
EPN	Emission Point Number
FIN	Facility Identification Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
gr	Grains
GWP	Global Warming Potential
HHV	High Heating Value
HP	Horsepower
hr	Hour
HRSG	Heat Recovery Steam Generating
kWh	Kilowatt hours
Kg	Kilogram
LAER	Lowest Achievable Emission Rate
lb	Pound
LDAR	Leak Detection and Repair
LDPE	Low Density Polyethylene
LHV	Lower Heating Value
MAPD	Methyl Acetylene Propadiene
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
MW	Megawatts
N ₂ O	Nitrous Oxides
NSPS	New Source Performance Standards
O ₂	Oxygen
PDH	Propane Dehydrogenation
ppmvd	Parts per Million Volume, Dry
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RTO	Regenerative Thermal Oxidizer
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TOC	Total Organic Carbon
TPY	Tons per Year
USC	United States Code
VOC	Volatile Organic Compound

II. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 12-month total, rolling monthly, shall not exceed the values listed on the attached table entitled “Emission Sources-Maximum Allowable Emission Rates Table. **(04/21)**

III. SPECIAL PERMIT CONDITIONS

A. Emission Unit Work Practice Standards, Operational Requirements and Monitoring

1. Regenerative Thermal Oxidizers (RTOs) (EPNs: LD-022) (04/21)

- a. LDPE plant is equipped with two (2) regenerative thermal oxidizers (RTOs) (EPN: LD-022). GHG emissions from the RTOs result from fuel gas combustion (pipeline quality natural gas) and waste gas combustion (waste gas from degassing silos).
- b. The RTOs are designed to combust low-VOC concentration waste gas from the pellet dryer and degassing silos and designed with a natural gas conservation system which allows the RTOs to maintain combustion temperature without use of the primary burner.
- c. Waste gas will be sampled and analyzed on a quarterly basis for composition. The sampled data will be used to calculate GHG emissions to show compliance with the limits specified in Table 1
- d. Permittee shall only burn pipeline quality natural gas for fuel and shall limit the natural gas heat input to 18 MMBtu/hr per RTO on a 12-month rolling average.
- e. Permittee shall install fuel monitoring for the RTOs pipeline quality natural gas (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate) on the RTOs, and shall:
 - i. Continuously measure and record the natural gas flow to the RTOs and provide the capability to totalize the fuel flow. This may be done using a dedicated device or a computer system that collects; sums; and stores electronic data from continuous fuel flow meters.
 - ii. Record the total fuel amount combusted monthly;
 - iii. Permittee shall receive and maintain monthly records of the natural gas vendor's analysis and the data is of sufficient quality to yield further analysis, as required.
- f. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
- g. Permittee shall update monthly and maintain a 12-month rolling total of the RTO natural gas firing rate to demonstrate compliance with the heat input limits. The annual (12-month rolling total) heat input shall be calculated in accordance with:

$$\sum_{i=1}^{12} \sum_{j=1}^k FF_j \times HHV_j \times 10^{-6}$$

Where: i = Start of 12 month rolling total period (current month, previous year)
12 = End of 12 month rolling total period (previous calendar month)
j = Combusted fuel type (1 iteration for each fuel type combusted)
k = Total number of fuels combusted during compliance month
FF = Monthly fuel now (set) for fuel j
HHV = High heating value (btu/set) for fuel j

- h. The Permittee shall install and operate oxygen analyzers on the exhaust stack to continuously monitor and record oxygen concentration when waste gas is directed to the RTOs. Oxygen readings shall be reduced to an averaging period. Permittee shall reduce the oxygen readings to an averaging period of 6 minutes or less and record at that frequency.
- i. Permittee shall conduct periodic maintenance at least annually or more often as recommended by the manufacturers' specifications.
- j. The Permittee shall maintain the combustion temperature above the one-hour average temperature maintained in the initial stack test, as required by the TCEQ NSR Permit No. 103048, based on the minimum chamber temperature on a 15-minute average. Prior to the stack test, the minimum combustion temperature will be 1,400 °F (760 °C). Temperature monitoring of the RTO will ensure proper operation.
- k. The Permittee shall install and maintain a temperature recording device with an accuracy of $\pm 2.5^{\circ}\text{C}$ or ± 0.75 percent of the temperature being measured expressed in degrees Celsius whichever is greater. Temperature measurement devices shall be calibrated, at a minimum, on a biannual basis.
- l. Compliance with the annual GHG emission limit as shown in Table 1, for RTOs, shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR Part 98 Subpart C § 98.33(a)(3)(iii) or values for CO₂ emissions as determined by the CO₂ CEMS.
- m. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling basis to be updated by the last day of the following month. Permitted shall determine compliance with the CH₄ and N₂O emissions limits contained in this section using the default CH₄ and N₂O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the HHV (for natural gas and/or fuel gas), converted to short tons.
- n. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1.

2. Pellet Blending Silos controlled by De-Duster Vent Baghouse (EPN: LD-014 and LD-015) (04/21)

- a. Permittee shall install, operate and maintain degassing/stripping silos to optimize removal of all volatiles including GHGs.
- b. Permittee shall install, operate, and maintain an air flow rate monitoring system on the degassing air flow.
- c. Permittee shall equip each pellet blending silo exhaust with instrumentation capable of measuring the heating value (Btu/scf) of the exhaust gas at least once each hour. Permittee shall calibrate the instrumentation daily and maintain all records for five years.
- d. Permittee shall record the time, date, duration, and higher heat value (HHV) in Btu/scf of the gas being exhausted for each silo (LD-014 and LD-015). The records

- shall include hourly and 3-hour average HHV readings as measured by an in-line analyzer. These records shall be kept for five years, following the date of each event
- e. Permittee shall adjust the rate of stripping air flow in the degassing system to maintain a HHV limit not to exceed 5 Btu/scf in the pellet blending silo exhausts on a 3-hour rolling average.
 - f. Permittee shall record all operational adjustments that are made to the degassing and blending system to maintain the 5 Btu/scf BACT limit.
 - g. Compliance with the annual GHG emission limit as shown in Table 1 shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR Part 98 Subpart Y § 98.253(j) or values for CO₂ emissions as determined by CO₂ CEMS.
 - h. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling basis to be updated by the last day of the following month. Permittee shall determine compliance with the CH₄ and N₂O emissions limits contained in this section using the default CH₄ and N₂O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the HHV (for natural gas and/or fuel gas), converted to short tons.
 - i. Permittee shall calculate the CO_{2e} emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1.

3. Waste Gas to LDPE Elevated Flare (EPN: PLANT-FLR4) (04/21)

- a. The elevated staged flare (PLANT-FLR4) shall be designed and operated in accordance with 40 CFR § 60.18 including specifications of minimum heating value of the gas being combusted, maximum tip velocity, and pilot flame monitoring or an approved alternate. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.
- b. Permittee shall continuously monitor for flame presence at the elevated staged flare (PLANT-FLR4) pilots while the flare is operating.
- c. The elevated staged flare (PLANT-FLR) shall have a minimum destruction and removal efficiency (DRE) of 98% for the VOCs and a minimum DRE of 99% for the methane, based on flow rate and gas composition measurements.
- d. The flares are designed for control of routine venting of emissions including maintenance, startup, and shutdown (MSS) activities, and upset conditions.
- e. The elevated staged flare (PLANT-FLR) shall only combust pipeline natural gas in the pilots during normal operations.
- f. Permittee shall equip the flare header with a gas composition analyzer which will provide the gas composition at least once each hour. Permittee shall calibrate the gas composition analyzer daily and maintain all gas composition records for five years.
- g. Permittee must record the time, date, duration, and heat input (HHV) in MMBtu/hr of the gas being combusted (waste gas and supplemental natural gas) for each MSS event. The records shall include hourly CH₄ emission levels as measured by an in-line

analyzer (Gas chromatograph or equivalent with volumetric stack gas flow rate) and the calculations based on the actual heat input for the CO₂, N₂O and CH₄ emissions during each MSS event. These records shall be kept for five years, following the date of each event. Process knowledge and engineering calculation are acceptable if the in-line gas analyzer is not operational during the MSS event.

- h. CO₂ emissions are calculated using equation Y-1a found in 40 CFR § 98.253(b)(1)(ii)(A). CH₄ and N₂O emissions are calculated using equations Y-4 and Y-5 as found in 40 CFR Part 98 Subpart Y.
- i. The on-line composition analyzer shall have an on-stream time of 95% on a 12-month rolling average basis.

4. Emergency Generator Engine (EPNs: LD-002) (04/21)

- a. Permittee shall use only diesel fuel to fire the engine.
- b. Permittee's emergency generators engine shall be rated at 1207 bhp with a fuel consumption of 7,000 Btu/hp-hr equaling a maximum heat input not to exceed 2.8 MMBtu/hr per 12-month rolling average.
- c. The emission limit in Table 1 is based on the emergency generator engine operating 100 hours a year for maintenance and testing.
- d. Permittee shall install and maintain an operational non-resettable elapsed time meter for the Emergency Generator
- e. Permittee shall maintain a file of all records, data measurements, reports and documents related to the operation of the Emergency Generator, including, but not limited to, the following: all records or reports pertaining to maintenance performed, all records relating to performance tests and monitoring of the emergency generator; for each diesel fuel oil delivery, hours of operation; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports and/or records.
- f. The engine shall meet the requirements of 40 CFR Part 60 Subpart IIII.
- g. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR Part 98, Subpart C, § 98.33(a)(1)(i).

5. Natural Gas and Fuel Gas Piping Fugitives (EPN: NG-FUG)

- a. The Permittee shall implement the TCEQ 28VHP leak detection and repair (LDAR) program for fugitive emissions for process lines in VOC service.
- b. In addition, the flanges and connectors for process lines in VOC service are subject to quarterly monitoring and the associated 28VHP requirements when leaks are detected.

- c. The Permittee shall implement an audio, visual, and olfactory (AVO) method for detecting leaks in natural gas piping components and fugitive emissions of methane for process lines not in VOC service but contain methane.
- d. The Permittee shall:
 - i. Perform the AVO monitoring weekly; and
 - ii. Maintain a written log of weekly inspection identifying the operating area inspected, fuel gas and natural gas equipment inspected (valves, lines, flanges, etc.), whether any leaks were identified by audible, visual or olfactory inspections and corrective actions/repairs taken.
- e. The Permittee shall take for the following action for identified leaks immediately upon detection of the leak:
 - i. Tag the leaking equipment device; and
 - ii. Commence repair or replacement of the leaking component as soon as practicable, but no later than 15 days after detection.

6. Maintenance, Startup and Shutdown (MSS) Activities (EPNs: LD-MSS)

- a. Permittee shall comply with the following for MSS activities:
 - i. Removal of all liquid from all equipment prior to opening;
 - ii. Depressurize all equipment to the elevated flare, prior to opening; and
 - iii. Purge all equipment with nitrogen to the elevated flare before opening equipment to the atmosphere for maintenance.
- b. Permittee shall maintain a maintenance log that records time, date, and duration to verify the approved pre-opening activities are executed for each opening.

IV. Recordkeeping and Reporting

A. Records

- 1. In order to demonstrate compliance with the GHG emission limits in Table 1, the Permittee shall maintain the following parameters on a calendar month basis.
 - a. Records of operating hours for all emission sources listed in Table 1;
 - b. Records of the usage of pipeline quality natural gas and gas, being combusted in RTOs and flares, measured in accordance with the Special Conditions in Section II of this permit.
 - c. Records of fuel sampling for natural gas, as required by 40 CFR § 98.34(b)(3).
- 2. For the EPNs listed in Table 1 and as required by this permit, the Permittee shall maintain records of the following for GHG emissions from the Equipment List (excluding fugitives): all records or reports pertaining to maintenance performed; duration of startup, shutdown; the initial startup period for the emission units; malfunctions; all records relating to performance tests, calibrations, checks, and monitoring of combustion equipment; duration of an inoperative monitoring device and emission units with the required corresponding emission data; and all other information required by this permit

recorded in a permanent form suitable for inspection. These records may be maintained in electronic databases.

3. Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests and monitoring and compliance information required by this permit.
4. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:
 - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 - c. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted;
 - d. Any failure to conduct any required source testing, monitoring, or other compliance activities; and
 - e. Any violation of limitations on operation, including but not limited to restrictions on hours of operation of the emergency generator engines.
5. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit, a malfunction occurs of an emission unit listed in the Equipment List that results in excess GHG emissions, or any other unauthorized GHG emissions occur.
6. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limits in Table 1 for the purpose of this permit.
7. Instruments and monitoring systems required by this PSD permit shall have a 95% on-stream time on a 12-month rolling average basis.
8. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. Initial Performance Testing Requirements:

- A. The Permittee shall perform an initial stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from one of the RTOs to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.

For the RTOs:

1. Multiply the CO₂ hourly average emission rate determined under maximum operating test conditions by 8760 hours.

2. If the above calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
 3. If the above calculated CO₂ emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall;
 - a. Document the exceedance in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
- B. Within 60 days after achieving the maximum production rate at which the affected facility shall be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the permitting authority. Additional sampling may be required by TCEQ or EPA.
- C. Permittee shall submit a performance test protocol to permitting authority no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by permitting authority.
- D. The LDPE plant shall operate at representative production rates during RTO stack emission testing.
- E. Performance testing must be conducted using flow rates that are comparable to the normal operating flow rates.
- F. The Permittee shall conduct fuel sampling in accordance with 40 CFR Part 98.
- G. Permittee shall conduct compliance determinations of the RTO following the requirements in 40 CFR sections § 65.147(b)(3)(i) through § 65.147(b)(3)(iv).
- H. For the RTO, the sampling site and velocity traverse point shall be selected in accordance with EPA Test Method 1 or 1A. The gas volumetric flow rate shall be measured in accordance with EPA Test Method 2, 2A, 2C, 2D, 2F, 2G, or 19. The dry molecular weight shall be determined in accordance with EPA Test Method 3, 3A or 3B. The stack gas moisture shall be determined in accordance with EPA Test Method 4. These methods shall be performed, as applicable, during each test run.
- I. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The owner or operator must make available to the permitting authority such records as may be necessary to determine the conditions of the performance tests.
- J. The owner or operator must provide the permitting authority at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the permitting authority the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test unless EPA approves an earlier rescheduled date due to unforeseen events, such as delays that are caused by weather.
- K. The owner or operator shall provide, or cause to be provided, performance testing facilities as follows:
1. Sampling ports adequate for test methods applicable to this facility,
 2. Safe sampling platform(s),

- 3. Safe access to sampling platform(s), and
- 4. Utilities for sampling and testing equipment.
- L. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.
- M. During subsequent operations of the RTOs, if the firing rate is greater than that recorded during the previous stack test, by more than 10%, stack sampling shall be performed at the new operating conditions within 120 days, to verify continued performance at permitted emission limits.

Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPSDTX47

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are authorized by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities authorized by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
LD-022	Regenerative thermal oxidizers 1 & 2	CO ₂	31,411 (5)
		CH ₄	34 (5)
		N ₂ O	0.24 (5)
		CO ₂ e	32,330 (5)
PLANT-FLR4	LDPE Elevated Flare	CO ₂	30,118
		CH ₄	11
		N ₂ O	0.23
		CO ₂ e	30,466
LD-014	De-Duster Vent Baghouse	CO ₂	382
		CH ₄	60
		CO ₂ e	1871
LD-015	De-Duster Vent Baghouse	CO ₂	382
		CH ₄	60
		CO ₂ e	1871
LD-002	Emergency generator engine	CO ₂	69 (6)
		CH ₄	(6)
		N ₂ O	(6)
		CO ₂ e	69 (6)
NG-FUG	LDPE Fugitives	CO ₂	(7)
		CH ₄	(7)
		CO ₂ e	(7)
LDPE MSS	LD MSS Vessel opening	CH ₄	(8)
		CO ₂ e	(8)

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) CO₂ - carbon dioxide
 N₂O - nitrous oxide
 CH₄ - methane

Project Number:

Emission Sources - Maximum Allowable Emission Rates

CO_{2e} - carbon dioxide equivalents based on the following Global Warming Potentials (1/2015):
CO₂ (1), N₂O (298), CH₄(25), SF₆ (22,800), HFC (various), PFC (various)

- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
- (5) The GHG Mass Basis TPY limit and the CO_{2e} TPY limit for the RTO applies to both combined.
- (6) These emissions are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
- (7) LDPE fugitives have a PTE of 0.69 TPY CO₂, 20.2 TPY CH₄, and 506 TPY CO_{2e}. The emission limit will be a design/work practice standard as specified in the permit.
- (8) LDPE MSS emissions to the atmosphere from vessel opening (EPN: LDPE-MSS) are estimated to not exceed 0.04 CO_{2e}. The emission limit will be a design/work practice standard as specified in the permit.

Date: April 19, 2021